WHAT IS CLAIMED IS:

1   1.   A computerized method for updating data in a database table in response

2   to requests from a requesting application comprising one of a first application at a first

3   version level and a second application at a second version level, wherein the first

4   application recognizes the table as including a subset of columns in the table that is less

5   than all the columns in the table and wherein the second application recognizes the table

6   as including all the columns in the table, comprising:

7   receiving a request from the requesting application for specified columns from

8   one record in the table;

9   accessing the requested record;

10   generating a data structure including data from the specified columns in the

11   requested record;

12   determining whether the requesting application is capable of recognizing all the

13   columns in the table;

14   adding to the data structure data from each column in the table that is not one of

15   the subset of columns if the requesting application is determined to not recognize all the

16   columns in the table; and

17   returning the data structure to the requesting application.

1   2.   The method of claim 1, wherein the second version level of the application

2   includes additional functionality over the first version level.

1   3.   The method of claim 1, further comprising:

2   receiving from the requesting application a request to delete the accessed record

3   after returning the data structure to the requesting application; and

4   deleting the accessed record from the table.

1   4.   The method of claim 3, wherein generating the data structure further

2   comprises adding a record identifier identifying the accessed record in the table to the

3   data structure, wherein the received request to delete from the requesting application

4   requests to delete the record having the record identifier included in the data structure.

1   5.   The method of claim 3, further comprising:

2   receiving the data structure returned to the requesting application including data

3   updated by the requesting application;

4   generating a table record having columns including the data in the received data

5   structure, including the data updated by the requesting application; and

6   inserting the generated table record into the table.

1   6.   The method of claim 5, further comprising:

2   after deleting the table record, deleting an index record in an index on the table

3   corresponding to the deleted table record; and

4   adding one index record to the index for the inserted table record, wherein the

5   data updated by the requesting application comprises at least one index key column used

6   to sort the index records in the index.

1   7.   The method of claim 1, wherein the request from the requesting

2   application comprises a request to update at least one column in the table that is a key

3   column in one index record corresponding to the requested record in an index on the

4   table, further comprising:

5   deleting the accessed record from the table and the index record corresponding to

6   the accessed record; and

7   receiving the data structure returned to the requesting application including data

8   modified by the requesting application in at least one column in the table that is one key

9   column in the index.

1   8.   The method of claim 7, further comprising:

2   generating one table record having columns including the data in the received

3 data structure, including the data updated by the requesting application;

4   inserting the generated table record into the table after deleting the table record

5 and index record; and

6   generating and inserting one index record into the index for the inserted table

7 record, wherein the data updated by the requesting application comprises at least one

8 index key column used to sort the index records in the index.

1   9.   The method of claim 1, wherein the request for specified columns from

2 one record comprises a database query.

1   10.   A computerized method for updating data in a database table by a first

2 application at a first version level, wherein the first application recognizes the table as

3 including a subset of columns in the table that is less than all the columns in the table,

4 wherein a second application at a second version level recognizes the table as including

5 all the columns in the table, wherein the first application performs:

6   transmitting a request for specified columns from one record in the table to an

7 application server managing access to the database table;

8   in response to the request, receiving from the application server a data structure

9 including data from the specified columns in the requested record and data from each

10 column in the table that is not one of the subset of columns recognized by the first

11 application.

1   11.   The method of claim 10, wherein the second version level of the

2 application includes additional functionality over the first version level.

1   12.   The method of claim 10, further comprising:

2   transmitting to the application server a request to delete the requested record from

3   the table.

1   13.   The method of claim 12, further comprising:

2   updating in the received data structure one of the subset of columns; and

3   returning the updated data structure to the application server to cause the

4   application server to generate a table record having columns including the data in the

5   updated data structure and insert the generated table record into the table.

1   14.   The method of claim 13, wherein the request to delete further causes the

2   application server to delete an index record in an index on the table corresponding to the

3   deleted table record, wherein returning the updated data structure to the application

4   server further causes the application server to add one index record to the index for the

5   inserted table record, and wherein the data updated by the requesting application

6   comprises at least one index key column used to sort the index records in the index.

1   15.   The method of claim 10, wherein the request comprises a request to

2   update at least one column in the table that is a key column in one index record

3   corresponding to the requested record in an index on the table, wherein the transmitted

4   request further causes the application server to delete the accessed record from the table

5   and delete the index record corresponding to the accessed record, further comprising:

6   updating, in the received data structure, at least one key column in the index that

7   is also one of the subset of columns; and

8   returning the updated data structure to the application server to cause the

9   application server to generate and insert one table record in the table having columns

10   including the data in the received data structure and generate and insert one index record

11   into the index for the inserted table record.

1 16. A system for updating data in a database table in response to requests from

2 a requesting application comprising one of a first application at a first version level and a

3 second application at a second version level, wherein the first application recognizes the

4 table as including a subset of columns in the table that is less than all the columns in the

5 table and wherein the second application recognizes the table as including all the

6 columns in the table, comprising:

7   a computer readable medium including the database table;

8   means for receiving a request from the requesting application for specified

9 columns from one record in the table;

10   means for accessing the requested record;

11   means for generating a data structure including data from the specified columns in

12 the requested record;

13   means for determining whether the requesting application is capable of

14 recognizing all the columns in the table;

15   means for adding to the data structure data from each column in the table that is

16 not one of the subset of columns if the requesting application is determined to not

17 recognize all the columns in the table; and

18   means for returning the data structure to the requesting application.

1 17. The system of claim 16, wherein the second version level of the

2 application includes additional functionality over the first version level.

1 18. The system of claim 16, further comprising:

2   means for receiving from the requesting application a request to delete the

3 accessed record after returning the data structure to the requesting application; and

4   means for deleting the accessed record from the table.

1   19.   The system of claim 18, further comprising:

2   means for receiving the data structure returned to the requesting application

3   including data updated by the requesting application;

4   means for generating a table record in the database having columns including the

5   data in the received data structure, including the data updated by the requesting

6   application; and

7   means for inserting the generated table record into the table.

1   20.   The system of claim 16, wherein the request from the requesting

2   application comprises a request to update at least one column in the table that is a key

3   column in one index record corresponding to the requested record in an index on the

4   table in the database, further comprising:

5   means for deleting the accessed record from the table and the index record

6   corresponding to the accessed record; and

7   means for receiving the data structure returned to the requesting application

8   including data modified by the requesting application in at least one column in the table

9   that is one key column in the index.

1   21.   A system for updating data in a database table, comprising:

2   a first computer system;

3   a first application implemented in the first computer system at a first version

4   level, wherein the first application recognizes the table as including a subset of columns

5   in the table that is less than all the columns in the table, wherein the first application

6   includes logic executed by the first computer system to perform:

7   (i) transmitting a request for specified columns from one record in the

8   table to an application server managing access to the database table; and

9   (ii) receiving, in response to the request, from the application server a data

10   structure including data from the specified columns in the requested record and

11 data from each column in the table that is not one of the subset of columns

12 recognized by the first application.

13 a second computer system; and

14 a second application implemented in the second computer system at a second

15 version level that recognizes the table as including all the columns in the table.

1 22. The system of claim 21, wherein the first application further includes logic

2 to transmit to the application server a request to delete the requested record from the

3 table.

1 23. The system of claim 22, wherein the first application further includes logic

2 to cause the first computer system to perform:

3 updating in the received data structure one of the subset of columns; and

4 returning the updated data structure to the application server to cause the

5 application server to generate a table record having columns including the data in the

6 updated data structure and insert the generated table record into the table.

1 24. An article of manufacture including code for updating data in a database

2 table in response to requests from a requesting application comprising one of a first

3 application at a first version level and a second application at a second version level,

4 wherein the first application recognizes the table as including a subset of columns in the

5 table that is less than all the columns in the table and wherein the second application

6 recognizes the table as including all the columns in the table, wherein the code is capable

7 of causing operations comprising:

8 receiving a request from the requesting application for specified columns from

9 one record in the table;

10 accessing the requested record;

11 generating a data structure including data from the specified columns in the

12 requested record;

13   determining whether the requesting application is capable of recognizing all the

14 columns in the table;

15   adding to the data structure data from each column in the table that is not one of

16 the subset of columns if the requesting application is determined to not recognize all the

17 columns in the table; and

18   returning the data structure to the requesting application.

1   25. The article of manufacture of claim 24, wherein the second version level

2 of the application includes additional functionality over the first version level.

1   26. The article of manufacture of claim 24, further comprising:

2   receiving from the requesting application a request to delete the accessed record

3 after returning the data structure to the requesting application; and

4   deleting the accessed record from the table.

1   27. The article of manufacture of claim 26, further comprising:

2   receiving the data structure returned to the requesting application including data

3 updated by the requesting application;

4   generating a table record having columns including the data in the received data

5 structure, including the data updated by the requesting application; and

6   inserting the generated table record into the table.

1   28. The article of manufacture of claim 24, wherein the request from the

2 requesting application comprises a request to update at least one column in the table that

3 is a key column in one index record corresponding to the requested record in an index on

4 the table, further comprising:

5   deleting the accessed record from the table and the index record corresponding to

6 the accessed record; and

7   receiving the data structure returned to the requesting application including data

8   modified by the requesting application in at least one column in the table that is one key

9   column in the index.

1   29.   An article of manufacture including code implemented in a first

2   application at a first version level for updating data in a database table, wherein the first

3   application recognizes the table as including a subset of columns in the table that is less

4   than all the columns in the table, wherein a second application at a second version level

5   recognizes the table as including all the columns in the table, wherein the code in the first

6   application causes operations to be performed comprising:

7   transmitting a request for specified columns from one record in the table to an

8   application server managing access to the database table;

9   in response to the request, receiving from the application server a data structure

10   including data from the specified columns in the requested record and data from each

11   column in the table that is not one of the subset of columns recognized by the first

12   application.

1   30.   The article of manufacture of claim 29, further comprising:

2   transmitting to the application server a request to delete the requested record from

3   the table.

1   31.   The article of manufacture of claim 29, further comprising:

2   updating in the received data structure one of the subset of columns; and

3   returning the updated data structure to the application server to cause the

4   application server to generate a table record having columns including the data in the

5   updated data structure and insert the generated table record into the table.